UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

OPP OFFICIAL RECORD
HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

MEMORANDUM

Date: 2/19/08

Subject: **Dichlorprop-P**: Product Chemistry Review of Water Solubility Data.
PC Code: 031402 Decision Number: 361501
DP Number: 343704 MRID No: 47163502

Reviewer: Donna S. Davis, Chemist
Reregistration Branch 1
Health Effects Division (7509P)

Through: Christine L. Olinger, Senior Chemist
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To: Rosanna Louie, Chemical Review Manager
Michael Goodis, Chief
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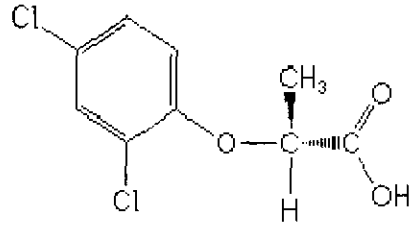
Special Review and Reregistration Division (7508P)

EXECUTIVE SUMMARY

The 2,4-DP-p Task Force has submitted product chemistry data on the water solubility of dichlorprop-p. OPPTS Harmonized Test Guideline 830.7840 (water solubility) has been adequately satisfied for the dichlorprop-p TGAI (technical grade active ingredient). At 20°C, the water solubility of dichlorprop-p ranges from 0.729 g/L in distilled water to 388 g/L in pH 9 buffer.

BACKGROUND

The 2,4-DP-p Task Force has submitted data generated by A H Marks & Co., Ltd., Germany on the water solubility of dichlorprop-p.



Structure 1. Dichlorprop-P

Table 1. Chemical Identity Information for Dichlorprop-P	
Common Name	Dichlorprop-p, or 2,4-DP-p
Chemical Name	Propanoic acid, 2-(2,4-dicholorphenoxy)-, R-
IUPAC:	(*R*)-2-(2,4-dichlorophenoxy)propionic acid
CAS:	(2*R*)-2-(2,4-dichlorophenoxy)propanoic acid
PC Code	031402
Formula:	$C_9H_8Cl_2O_3$

OPPTS Harmonized Test Guideline 830.7840 – Water Solubility: Column Elution Method; Shake Flask Method

The dichlorprop-p technical grade active ingredient (TGAI) was used for the water solubility determination. The submitter has provided batch (BASF 5) and purity (100%) information. The water solubility determination was conducted in accordance with the OPPTS Harmonized Test Guideline 830.7840 using the shake flask method. Adequate documentation of the experimentation and analytical phases of the analysis were provided. The results of the water solubility determinations are summarized in the table below.

Table 1. Dichlorprop-P Water Solubility[1]	
Solubility in Distilled Water (pH 2.8) @ 20°C	0.729 g/L
Solubility in pH 5 buffer @ 20°C	21.9 g/L
Solubility in pH 7 buffer @ 20°C	108 g/L
Solubility in pH 9 buffer @ 20°C	388 g/L

[1] Value reported is average of three readings taken at 24 hrs, 48 hrs and 72 hrs.

HED concludes that OPPTS Harmonized Test Guideline 830.7840 has been adequately satisfied for the dichlorprop-p TGAI.

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Chemical: Propanoic acid, 2-(2,4-dichlorophenoxy)-, (R)-

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